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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,829	11/24/2003	Kevin D. Horner-Richardson	9858-000100/COB	3962
27572 7590 12/13/2007 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER PASCHALL, MARK H	
			ART UNIT 3742	PAPER NUMBER
			MAIL DATE 12/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/720,829

Applicant(s)

HORNER-RICHARDSON ET AL.

Examiner

Mark H. Paschall

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 2 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims define that a torch head is disposed within a torch handle. The claims also define that a solenoid is disposed within the torch head and distally from the handle. These claims are vague and indefinite in that since the torch head is in the handle, how can a component within the torch head be disposed distally from the handle, if it is located within the torch handle. Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1,2, 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enyedy 5,938,949 in view of Hill 3,061,709. Enyedy et al teach the claimed subject matter except for showing a gas controller located within the handle of the torch. The patent to Hill is applied for teaching use of by-pass member 15, which slides and engages and disengages gas valve 28,38 to control the local gas pressure in the torch head. Note that gas shielded arc torches do use non-consumable electrodes and do create a plasma discharge, as claimed. In view of Hill teaching that local control of the gas flow via a valve in the torch handle/head as conventional, one of ordinary skill in arc torches would have been motivated to adapt the torch handle head of Enyedy et al with a local gas control device, to effect a local control of the gas flow proximate the torch

head. As per claim 8 note that reduction of start time would inherently occur in the Hill system and the Enyedy et al system as modified.

Claims 1-3,5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enyedy et al in view of Naor 6,486,430.

Enyedy et al teach the claimed plasma torch with handle with the gas control device/solenoid, disposed outside the torch head. The claims, insofar as understood, define the gas control device in the torch head, to reduce gas flow time control. In this respect the patent to Naor is applied for teaching this control scheme as conventional. Note column 6 in Naor, lines 46-50 which define that a gas control solenoid can be, "part of the plasma torch 306", the same structure leading to quick venting and prompt reigniting of the plasma arc, such as claimed. Hence, Naor has recognized that the location of the gas control device in a plasma torch can be in the torch itself, for quick gas control, with no teaching of a handle for the device. In view of this teaching it would have been obvious to modify the Enyedy et al system to include the gas control solenoid with the torch itself, to reduce the gas control times in the torch use.

Response to Arguments

Applicant's arguments have been fully considered but they are not persuasive. Applicant's remarks, on page 6, state, "Hill disclosed a compact gas valve in the handle of a welding torch, merely for the purpose of turning on and shutting off the flow of shielding gas." The Hill patent discloses a welding head, also set forth in claim 5. Claim 5 also discloses "a gas control valve disposed in the torch handle". Note that the torch

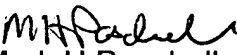
head is disclosed as located in the torch handle, see instant disclosure and see claim 3, for instance. Applicant's own disclosure in paragraph 0021 sets forth that the gas control valve can be located in the torch handle and other locations in the torch head, still falling within the scope of the invention. Paragraphs 0026 and 0028 in Applicant's own disclosure state that the gas control device can comprise a valve, as clearly defined in the Hill patent. Since the valve, a gas control device, is located in the torch head, and not connected to the torch head through a gas supply line, as conventional torches are, it is inherent that the gas pressure is built up local to the torch head, and not remotely. The Examiner submits that local buildup of gas pressure and hence reduction of restart times for the torch are inherently taught in the Hill device, in addition to ease of use by the operator. For these reasons, one of ordinary skill in torch control would find placement of the final gas control device in a torch handle/head, depicted as conventional torch structure, via the Hill teaching.

It should be noted that claim 6 defines only a single limitation which lists the step of , "building up gas pressure local to a torch head of a plasma torch". Broadly interpreted, if the gas control device was remotely located, and not in the torch head or handle, remote activation of the gas control valve or solenoid would clearly have the effect of increasing gas pressure in the torch head. Of course there would be a delay of the gas reaching the head through the torch supply line, but the claim is silent to preclusion of any delay, and local pressure would be built-up, even though remotely activated. As per claim 6 the claimed gas control device could merely comprise the gas inlet to the torch head, barring further description of the same.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark H. Paschall whose telephone number is 571 272-4784. The examiner can normally be reached on 7am - 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Mark H Paschall
Primary Examiner
Art Unit 3742

Mp